

CLAIMS

1. A mobile phone with music reproduction function comprising:
a reproduction unit operable to reproduce music data which is
5 recorded in a recording medium;
an incoming call detection unit operable to detect an incoming
call from outside;
a ring tone output unit operable to output a ring tone; and
a control unit operable to instruct the reproduction means to
10 perform a fade-out process of reproducing music data, and instructs
the ring tone output unit to perform a fade-in process of outputting
a ring tone when the incoming call detection unit detects an
incoming call while the reproduction unit is reproducing music data.

15 2. The mobile phone according to Claim 1 further comprising:
a storage unit operable to store a list in which a communicating
partner registered beforehand is corresponded to incoming call
processing information indicating per communicating partner
whether or not to stop reproduction of music data when a call arrives
20 during reproduction of music data,
wherein the control unit specifies a communicating partner
who is a caller of an incoming call detected by the incoming call
detection unit, and instructs the reproduction unit to stop
reproduction of music data after performing a fade-out process of
25 reproducing music data when the incoming call processing
information corresponding to a specified communicating partner
indicates a stop of reproduction of music data.

3. The mobile phone according to Claim 2,
30 wherein the list is a phone book list in which a phone number of
a communicating partner registered beforehand is corresponded to
the incoming call processing information, and

the control unit compares a caller's phone number of an incoming call detected by the incoming call detection unit with the phone number stored in the storage unit, and if both phone numbers match with each other as a result of comparison, instructs the reproduction unit to stop reproduction of music data when the incoming call processing information corresponding to the phone number indicates a stop of reproduction of music data.

4. The mobile phone according to Claim 1,

wherein the control unit further comprises an elapsed time counting unit that counts elapsed time from the point of receiving a call, instructs the ring tone output unit to stop outputting a ring tone after performing a fade-out process of a ring tone when a talk does not start within a specified time elapsed after the incoming call detection unit detects an incoming call, and instructs the reproduction unit to perform a fade-in process of reproducing the music data.

5. The mobile phone according to Claim 1,

wherein the control unit instructs the ring tone output unit to start performing a fade-in process of a ring tone at the same time when the reproduction unit starts a fade-out process of music data.

6. The mobile phone according to Claim 1,

wherein the control unit instructs the ring tone output unit to start performing a fade-in process of a ring tone after the reproduction unit completes a fade-out process of music data.

7. The mobile phone according to Claim 1,

wherein the control unit instructs the ring tone output unit to start performing a fade-in process of a ring tone after the reproduction unit starts a fade-out process of music data.

8. A mobile phone with music reproduction function comprising:
a reproduction unit operable to reproduce music data which is
recorded in a recording medium, and
5 a BGM unit operable to instruct the reproduction unit to
reproduce music data as background music in parallel with output of
communicating voice.

9. The mobile phone according to Claim 8,
10 wherein the BGM unit instructs the reproduction unit to tune
down reproduction sound of reproducing music data to a specified
sound volume.

10. The mobile phone according to Claim 8,
15 wherein the BGM unit instructs the reproduction unit to
continue reproduction of music data when a talk starts in response
to a call after the call arrives while the reproduction unit is
reproducing music data.

20 11. The mobile phone according to Claim 8,
wherein the BGM unit instructs the reproduction unit to
continue reproduction of music data when a talk starts in response
to a call after the call is made to a communicating partner while the
reproduction unit is reproducing music data.

25 12. The mobile phone according to Claim 8 further comprising:
a BGM transmission unit operable to transmit reproduction
sound of music data reproduced by the reproduction unit in answer
to the instruction of the BGM unit to a communicating partner along
30 with communicating voice.

13. The mobile phone according to Claim 8 further comprising:

a BGM output unit operable to output reproduction sound of music data reproduced by the reproduction unit in answer to the instruction of the BGM unit to a speaker of the mobile phone without transmitting to a communicating partner.

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14. The mobile phone according to Claim 8,

wherein the BGM unit instructs the reproduction unit to reproduce given music data as background music in parallel with output of communicating voice when a talk starts in response to a call after the call arrives while the reproduction unit is not reproducing music data.

15. The mobile phone according to Claim 8 further comprising:

a storage unit operable to store a list in which a communicating partner registered beforehand is corresponded to communication processing information indicating whether or not to reproduce music data as background music during a talk after a call arrives while music data is not being reproduced,

wherein the BGM unit specifies a communicating partner who is a caller when a call arrives, and instructs the reproduction unit to reproduce given music data as background music during a talk when the communication processing information corresponding to the specified communicating partner indicates reproduction of music data.

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16. The mobile phone according to Claim 8 further comprising:

a BGM data list storage unit operable to store a BGM data list including a phone number of a communicating partner registered beforehand and the file name of music data corresponding to the phone number which should be reproduced as background music during a talk after a call arrives while music data is not being reproduced,

wherein the BGM unit compares the caller's phone number with the phone number stored in the BGM data list when a call arrives, and if both phone numbers match with each other as a result of comparison, instructs the reproduction unit to reproduce the music data indicated in the BGM data list corresponding to the phone number as background music during a talk.

17. A mobile phone with music reproduction function comprising:
a reproduction unit operable to reproduce music data which is recorded in a recording medium;

a stop unit operable to temporarily stop reproduction by the reproduction unit; and

a control unit operable to instruct the reproduction unit to reproduce music data based on a specified reproduction resume method after reproduction is stopped by the stop unit and then a talk finishes.

18. The mobile phone according to Claim 17 further comprising:

a resume method storage unit operable to store information indicating a plurality of reproduction resume methods,

wherein the control unit selects one of the reproduction resume methods stored in the resume method storage unit, specifies a reproduction start position of music data based on the selected reproduction resume method, and instructs the reproduction unit to reproduce music data from the specified reproduction start position.

19. The mobile phone according to Claim 17,

wherein the reproduction resume method is a method to reproduce music data from the beginning of the music data which was being reproduced just before being stopped.

20. The mobile phone according to Claim 17,
wherein the reproduction resume method is a method to
reproduce music data from the point at which the reproduction of
the music data was stopped.

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21. The mobile phone according to Claim 17,
wherein the reproduction resume method is a method to jump
back music data for the specified time from the point at which the
reproduction of the music data was stopped and to restart the
reproduction of the music data at that point.

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22. The mobile phone according to Claim 17,
wherein the resume method storage unit further includes a
resume position information storage unit that stores per music data
the resume position information indicating one or more break points
of music, and
the reproduction resume method is a method to reproduce
music data from the point indicated by the resume position
information just before the point at which the reproduction of the
20 music data was stopped.

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23. The mobile phone according to Claim 18,
wherein one of the reproduction resume methods is a method
to reproduce music data from the beginning of the music data which
25 was being reproduced just before being stopped.

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24. The mobile phone according to Claim 18,
wherein one of the reproduction resume methods is a method
to reproduce music data from the point at which the reproduction of
30 the music data was stopped.

25. The mobile phone according to Claim 18,

wherein one of the reproduction resume methods is a method to jump back music data for the specified time from the point at which the reproduction of the music data was stopped and to restart the reproduction of the music data at that point.

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26. The mobile phone according to Claim 18,

2 wherein the resume method storage unit further includes a resume position information storage unit that stores per music data the resume position information indicating one or more break points of music, and

one of the reproduction resume methods is a method to reproduce music data from the point indicated by the resume position information just before the point at which the reproduction of the music data was stopped.

27. The mobile phone according to Claim 17 further comprising:

a reproduction resume method memory unit operable to memorize the reproduction resume method designated by a user,

wherein the control unit instructs the reproduction unit to reproduce music data based on the designated reproduction resume method.

28. The mobile phone according to Claim 17 further comprising:

an incoming call detection unit operable to detect an incoming call from outside,

wherein the stop unit instructs the reproduction unit to stop reproduction of music data when an incoming call is detected by the incoming call detection unit.

30 29. A mobile phone with music reproduction function comprising:
a reproduction unit operable to reproduce music data
recorded in a recording medium;

an incoming call detection unit operable to detect an incoming call from outside;

a ring tone output unit operable to output a ring tone;

a music stop unit operable to instruct the reproduction unit to

5 stop reproduction of music data after a fade-out process of reproducing music data when the incoming call detection unit detects an incoming call while the reproduction unit is reproducing music data, and instructs the ring tone output unit to perform a fade-in process of outputting a ring tone; and

10 a resume unit operable to instruct the reproduction unit to reproduce music data which was being reproduced just before being stopped based on a specified reproduction resume method after reproduction is stopped by the music stop unit and then a talk finishes.

15 30. A mobile phone with music reproduction function comprising:

a reproduction unit operable to reproduce music data which is recorded in a recording medium;

20 an incoming call detection unit operable to detect an incoming call from outside; and

25 a BGM unit operable to instruct the reproduction unit to tune down the reproduction sound volume of reproducing music data to a specified volume, instructs the reproduction unit to reproduce the music data as background music in parallel with output of communicating voice when the incoming call detection unit detects an incoming call, and instructs the reproduction unit to return the reproduction sound of music data to the volume when an incoming call is detected after a talk finishes.

30 31. A mobile phone with music reproduction function comprising:

a reproduction unit operable to reproduce music data which is recorded in a recording medium; and

5 a BGM unit operable to instruct the reproduction unit to reproduce a specified music data as background music in parallel with output of communicating voice when a talk starts in response to a call after the call arrives while the reproduction unit is not reproducing music data, and to stop reproduction of music data after a talk finishes.

32. A music data reproduction method by a mobile phone with music reproduction function comprising:

10 a reproduction step for reproducing music data recorded in a recording medium;

15 an incoming call detection step for detecting an incoming call from outside; and

20 a ring tone output step for fading out reproducing music data as well as fading in a ring tone.

33. A music data reproduction method by a mobile phone with music reproduction function comprising:

20 a reproduction step for reproducing music data recorded in a recording medium;

25 a sound volume tuning-down step for tuning down reproduction sound of reproducing music data to a specified sound volume; and

30 a BGM step for reproducing music data as background music in parallel with output of communicating voice.

34. A music data reproduction method by a mobile phone with music reproduction function comprising:

30 a reproduction step for reproducing music data recorded in a recording medium;

35 a stop step for temporarily stopping reproduction of reproducing music data; and

Sub a3 a resume step for resuming reproduction of music data based on a specified reproduction resume method after reproduction is stopped and then a talk finishes.

5 35. A program that is executed by a computer including:
a reproduction step for reproducing music data recorded in a recording medium;
an incoming call detection step for detecting an incoming call from outside; and
10 a ring tone output step for fading out reproducing music data as well as fading in a ring tone.

36. A program that is executed by a computer including:
a reproduction step for reproducing music data recorded in a recording medium;
a sound volume tuning-down step for tuning down reproduction sound of reproducing music data to a specified sound volume; and
20 a BGM step for reproducing music data as background music in parallel with output of communicating voice.

37. A program that is executed by a computer including:
a reproduction step for reproducing music data recorded in a recording medium;
25 a stop step for temporarily stopping reproduction of reproducing music data; and
a resume step for resuming reproduction of music data based on a specified reproduction resume method after reproduction is stopped and then a talk finishes.

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